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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/902,331 07/29/97 GRUENENFELDER

P 622/42052DIV

IM22/1018

EXAMINER
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CANTELMO, G

ART UNIT	PAPER NUMBER
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1753

*25*

DATE MAILED:

10/18/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

## Office Action Summary

Application No.

08/902,331

Applicant(s)

GRUENENFELDER ET AL.

Examiner

Gregg Cantelmo

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 35-37, 44 and 45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 35-37, 44 and 45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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## **DETAILED ACTION**

### ***Request for Continued Examination***

1. The RCE received October 2, 2001 has been received and entered. An action on the merits follows.

### ***Response to Request for Reconsideration***

2. In response to the amendment filed on October 2, 2001:
  - a. The 112 first paragraph rejection of claims 35-37 and 44 presented in the previous office action stands;
  - b. The requirement for a new oath presented in the previous office action stands;
  - c. The specification objection presented in the previous office action stands.

### ***Declaration***

3. Applicants declaration from Walter Haag has been considered but is not persuasive. First it is noted that there was no Sketch A attached to this declaration. Therefore item 7 of the declaration is not fully addressed by the declaration. Secondly, the equation derived is still not held to be an accurate derivation for the reasons set forth below.

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***Oath/Declaration***

4. This application presents a claim for subject matter not originally claimed or embraced in the statement of the invention. The new matter is that which is discussed in detail in both the specification objection and 112 first paragraph rejection. Since this application is a divisional of U.S. patent No. 5,688,381, the disclosures of both applications must be identical else applicant is advised to pursue any continuing applications as a Continuation-in-Part as opposed to a Divisional. In doing so, a supplemental oath would be required. A supplemental oath or declaration is required under 37 CFR 1.67. The new oath or declaration must properly identify the application of which it is to form a part, preferably by application number and filing date in the body of the oath or declaration. See MPEP §§ 602.01 and 602.02.

***Specification***

5. The request for reconsideration filed October 2, 2001 and entered as per the RCE request is objected to under 35 U.S.C. 132 because it does not rectify the issue new matter introduced in by the amendment received February 10, 2000 and amended into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the various steps recited in the order indicated in this amendment nor of preferred values or distances employed therein.

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In addition, by amending the specification and claims, it would appear that this application is no longer carved out of the parent case from which this application is a division of and hence would not be in accordance with 35 U.S.C. 120 and 121. The application may be more suitably filed as a CIP as opposed to it's current filing as a divisional application of U.S. patent No. 5,688,381. In doing so applicant is advised to review MPEP section 201.06(c) directed to the specification and drawings wherein applicant is advised that a new oath/declaration along with a surcharge is required and the applicant should be redesignated as a CIP. Applicant is again advised to cancel the new matter in reply to this office action.

### *Claim Objections*

6. Claim 45 remains objected to because of the following informalities: the term "workpiee" in line 7 of the claim should be workpiece. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 35-37 and 44-45 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled

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in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In light of submitted claim 44, this claim teaches of a relationship between the degree of taper and radius by manipulating numerous equations. The relationship defined as  $0.2 r_1 \leq d_0 \leq 0.54 r_1$ . However there is no support for such a critical limitation. Applicant relies on support and disclosure provided in the amendment and not clearly and sequentially disclosed within the original application in the same manner. At one point applicant recites that a preferred distance  $a$  is  $30\% d_{113}$ . The skilled artisan would not have been led to such a preferred distance without the specific teachings of the new matter presented in applicants amendment to the specification.

Since this claimed limitation is a critical feature of the instant invention, the disclosure as recited in the original application is not enabling for the claimed relationship. The examiner has interpreted such a limitation such that by teaching of the same target dimensions, the target will inherently generate the same taper at some point during sputter operation. Furthermore, it would not have been clear to one having ordinary skill in the art to employ a target having an amount of taper defined by the relationship:  $0.2 r_1 \leq d_0 \leq 0.54 r_1$  since the original specification fails to provide any teaching toward deriving such a critical feature.

Furthermore Applicant indicates an equation wherein  $d_0 = d_{113} - a$  as shown in Fig. 1. Analysis of Fig. 1 does not show this relationship. First there is no clear disclosure of  $d_0$  in the drawing. Second and more notably, examination of the figure may not show this relationship. It appears that the upper surface of the target and lower limit of distance  $a$  are separated by a gap or

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structure between the two components. The specification does not clearly set forth that the lower limit of distance  $a$  is directly adjacent to the upper surface of the target and Fig. 1, relied upon for this equation appears to show that the two components are not directly adjacent each other.

Therefore when determining the amount of taper the difference between  $d_{113}$  and  $a$  will give a value that is greater than  $d_0$  since it will also include the gap between the upper target surface and

a. For assistance in understanding the examiners position, an enlarged marked up copy of Fig. 1 is provided.

### *Response to Arguments*

9. Applicant's arguments filed October 2, 2001 have been fully considered but they are not persuasive. In particular:

If new subject matter is added to the disclosure, whether it be in the abstract, the specification, or the drawings, the examiner should object to the introduction of new matter under 35 U.S.C. 132 or 251 as appropriate, and require applicant to cancel the new matter. If new matter is added to the claims, the examiner should reject the claims under 35 U.S.C. 112, first paragraph - written description requirement. In re Rasmussen, 650 F.2d 1212, 211 USPQ 323 (CCPA 1981). The examiner should still consider the subject matter added to the claim in making rejections based on prior art since the new matter rejection may be overcome by applicant.

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In an instance in which the claims have not been amended, per se, but the specification has been amended to add new matter, a rejection of the claims under 35 U.S.C. 112, first paragraph should be made whenever any of the claim limitations are affected by the added material.

When an amendment is filed in reply to an objection or rejection based on 35 U.S.C. 112, first paragraph, a study of the entire application is often necessary to determine whether or not "new matter" is involved. Applicant should therefore specifically point out the support for any amendments made to the disclosure (See MPEP 2163.07).

Applicant arguments and declaration state that the amendments to the specification as well as the relationship recited in independent claim 44 does not constitute new matter. The examiner is not persuaded.

First, in order to arrive at such a relationship applicant required a lengthy amendment to the specification. The applicant appears to have taken numerous relationships disclosed throughout the specification and arbitrarily selected preferred values such as the preferred 30% d113 to arrive at the particular relationship recited in claim 44 and the amendment to the specification incorporating new matter. Furthermore, the equation (3) is not found within the original disclosure and was a point of contention discussed in the previous personal interview. Equation (4) recites "1/07" wherein no such explicit disclosure is found in the original application. Applicant incorporates preferred combination of 8 relationships with preferred distances and parameters to arrive at the relationship  $0.2 r_1 < d_0 < 0.54 r_1$ . The skilled artisan would not have been led to such a conclusion based on the originally filed disclosure.



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In addition, as a divisional application of U.S. patent No. 5, 688,381 such an amendment to both the specification and claims would not be considered proper since the disclosure of the parent 5,688,381 and that of this application would be substantially different in content. Thus the instant application would be more appropriately filed as a CIP and not a divisional as is it's current continuing status.

Furthermore the relationship of  $d_0 = d_{113} - a$  is not held to derive the target taper as applicant states and thus cannot be said to accurately derive the final equation of the claims relied upon for patentability. Applicant again is advised and invited if they wish to pursue such disclosure to be incorporated into the application to refile as a CIP as discussed above.

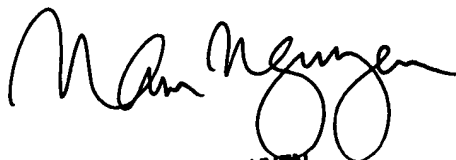
### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is (703) 305-0635. The examiner can normally be reached on Monday through Thursday from 8:30 a.m. to 5:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen, can be reached on (703) 308-3322. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7718. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

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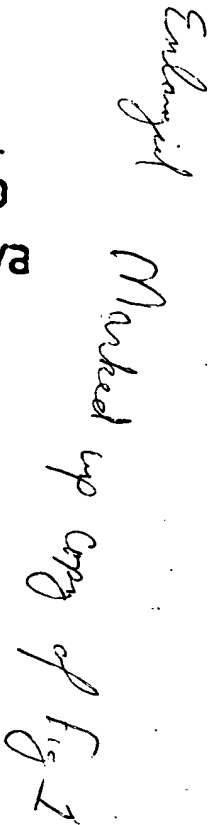
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A handwritten signature in black ink, appearing to read "Nam Nguyen", with a large circular flourish at the end.

gc

October 17, 2001

NAM NGUYEN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700



Appears that  
upper surface  
is not clear  
therefor,  $d_o = d_{us} - a$   
not defined

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

## INFORMATION ON HOW TO EFFECT DRAWING CHANGES

### 1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

### 2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

#### Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.